

Historic, archived document

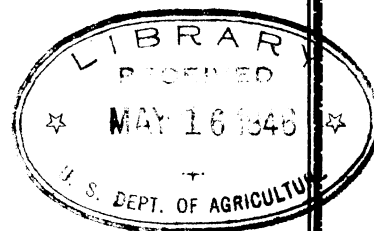
Do not assume content reflects current scientific knowledge, policies, or practices.

1.9
an 528

OCT 24 1933

Reserve

The EXTENSION ANIMAL HUSBANDMAN



**UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
D.C.**

UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C.

THE EXTENSION ANIMAL HUSBANDMAN

Issued quarterly by the Bureau of Animal Industry
and Extension Service, Cooperating.

C. D. Lowe, Senior Extension Animal Husbandman,
K. F. Warner, Senior Extension Meat Specialist.

Serial No. 51

--September 1938

Special Articles in this Issue:

Page

Percheron Development in Frederick County, Maryland, by Jos. M. Vial	2
Swine Herd Improvement in Iowa, by E. L. Quaife	5
Diversification in Livestock Interests Wisconsin County Agents, by James Lacey	9
Two to Four Pounds More Wool Per Ewe, by Tony Fellhauer	12

Also:

Personnel Items	4
Sow Testing in Minnesota	8
ACP in South Dakota	11
Swine Work in Texas	14
The Feed Situation	15
South Dakota Cooperative Grazing Associations	16
A Fundamental Thought	17
Friends	17
Louisiana Work Stock Progress	18
North Dakota Livestock Mutual Aid Corporation	19
Ohio Horse Notes	20
Cattle-Lice Control in South Carolina	21
American Society of Animal Production	21
Scrub Sire Trial Outline	21
Miscellaneous Horse Notes	22
South Carolina Swine Work, 1937	22
Recent Publications	23

PERCHERON DEVELOPMENT IN FREDERICK COUNTY, MARYLAND

By Jos. M. Vial, Extension Animal Husbandry Specialist,
Maryland Extension Service.

- - -

About five years ago there were not more than about 20 head of registered Percheron horses in Frederick County, Maryland. Today there are approximately 400 registered Percheron horses owned by some 35 active members of the Frederick County Percheron Horse Association. What accounts for this change?

In the first place, increased draft-horse breeding has been fairly universal the country over the past few years. In this particular, Frederick County was no exception. That the Percheron is the breed Frederick County farmers prefer is likewise natural. This county lies just across the Potomac from the late Col. E. B. White's Selma Farms. Those who know Col. White, former president of the Percheron Society of America, as that organization was then known, recall his enthusiasm for Percherons. So it was entirely natural for thrifty neighboring farmers to absorb some of his admiration for good horses.

To be sure active interest lay quite dormant, as it did elsewhere, during that period when draft-horse breeding was at a low ebb. In the fall of 1933, K. A. Clark, former extension animal husbandry specialist at the University of Maryland, resigned his position to accept the management of Monacacy Farms, 11 typical Frederick County farms under one ownership. Most of these farms are tenanted on a livestock-share basis. The tenant furnishes the machinery and labor, the owner the land and livestock. Because of the rolling topography of the section, the somewhat irregularly shaped fields, some stony ground, and the business sagacity of K. A. Clark, horses were to constitute the farm field power, as well as to play a definite part in the livestock-share contracts.

The first shipment of registered Percherons for these farms arrived from the Northwest the last of October, 1933, a few days ahead of the new extension animal husbandry specialist (the writer) at the University of Maryland. These 26 head were the immediate stimulus to action. K. A. Clark was kick-off man, so to speak, in this 5-year plan and carried the ball many times from quarter-back position. A real County agent H. R. Shoemaker and Charles Remsburg, his able assistant, played the half-back positions, the extension animal husbandry specialist, full back, and yardage has been gained behind a hard-hitting, determined line of farmer breeders. To carry the figure of speech farther, this constitutes the varsity squad and the

4-H colt club boys, the freshman squad. Teamwork has improved. Instead of one or two stars, as in the early stages of the game, a well-balanced organization has developed. The players have been beaten, yes, but they have learned to take it. The ball has been fumbled at times, to be sure, but the members of that Frederick County team have their eyes on the ball, recover quickly, and come back for more.

What yardage has been gained and how? They have become Percheron conscious and at the same time organization conscious. This group advertises cooperatively. Its fair association pays premiums for Percherons only in the draft-horse department. In 1937, the first year that the county fair opened the draft-horse department to the entire State, 77 head of registered Percheron horses responded. According to Ellis McFarland's report, only 7 or 8 shows in the United States exceeded this figure last year. Last spring the Frederick boys staged a tour and the writer counted 70 automobiles parked at one of the stops. A few individuals have ventured into some of the bigger shows with moderate success. Just last week, Billy Page, one of the 4-H colt club boys, the owner of three purebreds, walked off with the junior and grand championship awards at the Maryland State Fair on his two-year-old stallion. Repeated purchases of good breeding stock from other States have been made. Sales to most of the Atlantic Seaboard States have been numerous and one shipment to Venezuela is on the records.

During the fall, winter, and early spring months regular meetings of the association are held. At most of these meetings some informed speaker discusses topics of interest to horsemen. A few prominent breeders, veterinarians, research men, livestock editors, and the like have appeared. Interesting discussions inevitably follow. From the viewpoint of the animal husbandry extension specialist, horse work with such a group is a pleasure for the various committees are capable of assuming their responsibilities in putting across the different projects, and are willing to do so.

In the summer months demonstrations of one type or another are the rule. Hoof trimming, fitting and showing, hitches, breeding problems, judging and selection, as well as feeding and management, all come in for their share. When some demonstration is in the offing, one or more of the members do the ground work prior to the actual demonstration, which is a distinct aid. The members are leaders who father 4-H colt club work and lend every possible assistance to the boys. When a prospective buyer or visitor arrives in the county, the secretary arranges transportation so that he may find what he wants. In short, the Frederick County Percheron Horse Association is one that works.

-----oOo-----

PERSONNEL ITEMS

Indiana

Raymond Piper, a member of the animal husbandry resident teaching staff, has devoted the past summer to 4-H pig club work.

Iowa

Rex Beresford, Extension animal husbandman, while on furlough from regular duty, conducted a series of 52 cattle feeders' survey and outlook meetings for the Chicago Producers' Commission Association this summer.

Maryland

James B. Outhouse, a Cornell animal-husbandry graduate and former State champion 4-H club member, has been added to the animal-husbandry staff and will devote part time to extension work, especially in the club field.

Michigan

Delmer H. La Voi, extension animal husbandman, resigned his position, effective August 15, to become director of public relations for the National Live Stock and Meat Board with headquarters at Chicago. He was succeeded in extension work by Everett L. Benton, formerly county agricultural agent in Tuscola County.

Nebraska

Ross H. Miller of the resident teaching staff again assigned in extension work during the past summer.

New York

H. A. Hopper, project leader in animal-husbandry extension from 1913 to 1928, died on November 26, 1937. He was succeeded by S. J. Brownell. Professor Hopper remained on the staff until the time of his death.

South Dakota

I. B. Johnson, formerly extension animal husbandman, was appointed head of the animal-husbandry department and director of the experiment station, effective July 1, 1938. Guy A. McDonald succeeded Mr. Johnson in the extension field.

U.S.D.A.

It is with regret that the death of James K. Wallace, senior livestock marketing specialist, is recorded. Mr. Wallace expired in Kansas City, Mo., on June 22 following an emergency operation. He was en route to Washington from one of his regular extension trips to the range country where for many years he had conducted livestock grading demonstrations and otherwise aided in livestock marketing work.

West Virginia

Benj. F. Creech, extension animal husbandman, has been granted a year's leave of absence, effective November 1, to become executive secretary of the West Virginia Farm Bureau.

SWINE HERD IMPROVEMENT IN IOWA

By E. L. Quaife, Extension Animal Husbandman,
Iowa Extension Service.

- - -

There are three important phases in swine production, namely, breeding, feeding, and disease and parasite control. From the experimental as well as from the extension point of attack, the work on feeding and on disease and parasite control has progressed much further than has the work on swine herd improvement. By swine herd improvement I mean the improvement of the breeding stock from the standpoint of ability to gain combined with suitability of the hog for market demands.

Very few of our swine producers have any well-laid plan of procedure in the selection of their breeding stock. The usual procedure is to pick out a bunch of gilts from the fattening drove some time prior to breeding. Often this is done with no regard whatsoever to the size of litter or the gaining ability of the litter. These gilts are then mated to a boar with an unknown record, and the hog producer trusts that he will get a good uniform bunch of hogs that will weigh 200 pounds each in 180 days time. The following summer all these sows are sold, the good with the poor, and a beginning is made again in the fall. It is surprising that our producers have done as well as they have.

What procedure can the hog man take that is practical and at the same time comparatively sound and constructive? The most practical and what appears to be constructive is the saving of the gilts and the boars from large and heavy litters at some specified age. This procedure, to be accurate, involves weighing the litters at some age, such as 56 days or at weaning time.

This is not a big task yet the absence of scales on most farms seems to be a stumbling block for many of our hog producers. A beginning along this line has been made in Iowa. It seems to take considerable missionary work, however, to convince the breeder or the market hog man that it is worthwhile.

In 1937, 167 litters were weighed on 24 Iowa farms and the weights of litters ranged from an average of 289 pounds at

56 days of age on the farm having the highest average to 130 on the farm with the lowest average. There was also a wide variation among sows on the individual farms. For instance, on the farm where the pigs averaged 289 pounds, the individual litters ranged from 374.9 to 200 pounds, and the average weight per pig varied from 41.6 to 28.6 pounds at the uniform age of 56 days.

Last year there was considerable interest on the part of swine producers in obtaining gilts and boars from these litters with known records. In 1938, a number of individual farmers are weighing their litters. One of the best records so far this year was an average of 359 pounds per sow for litters at 56 days of age. There were 15 litters in this herd and the litters averaged 8.5 pigs at weaning time. The pigs averaged 42.2 pounds each.

At Austin, Minn., in connection with the vocational department of the high school, a man devotes all his time to such a project, working with some 500 farmers. This man weighs the litters and keeps the records. The packing plant at Austin cooperates in the conduct of this project by killing representative hogs from various herds and sows to determine the suitability of the hog from the market standpoint.

Breed associations are behind this herd-improvement project. Most of them now have some form of advanced registry for sows and boars. This work should be done first by breeders and the market hog man will gradually follow.

The individual producer should do this work for himself and primarily for his own benefit. I believe that in time much litter weighing will be done, but it is bound to be slow, because the results are not so clear cut and noticeable as in the case of milk or butterfat with cows.

A summary of the 1937 results follows:

SUMMARY OF RESULTS OF HERD-IMPROVEMENT PROJECT
1937

Name of Cooperator	County	Litters	Average pigs far- rowed per litter	Average pigs weaned per litter	Pigs saved per litter	Average litter weight at 56 days	Classification of dam
		<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Percent</u>	<u>Pounds</u>	
Wilson, John	Greene	1	10	10	100	552	Fall sow
Juhl, Ed	"	10	8.6	8	93	289	Gilts
Mylenbusch Bros.	"	9	8.6	8.1	93.7	288.7	"
Juhl, Walter	"	5	8.8	8	90.9	282	"
Juhl, Peter	"	5	8.8	7.6	86	281.7	"
Hughes, Lloyd	"	12	8	7.66	92	262	"
Paulson, Henry	"	10	7.3	7.1	97	261.8	"
Matthews, B. L.	Clinton	7	8.5	6.58	76.8	251.3	"
Carlson, C. V.	"	5	--	7.2	--	240.6	"
Hughes, Chas.	Greene	9	8.3	6.3	76	237	8 gilts, 1 sow
Schaff, Paul	Clinton	7	6.8	6.1	91	232	Gilts
Wolf, Sam	Greene	5	8.6	7.2	83	222.3	2 gilts, 3 sows
Motsick, Marvyl	"	2	9.5	6.5	68	203	Gilts
Anderson, Chas.	"	2	--	7	--	203	"
Martanson, Chas.	Clinton	7	11.5	9.3	79	201	Sows
Peters, J. J.	Greene	2	9.5	6	60	194.4	"
Swanson, John	"	5	9.8	5.8	59	185	"
Scott, Clyde	"	6	8.7	6.3	72	170.4	4 gilts, 2 sows
Kruse, LeRoy	Clinton	22	7.5	6	81	160	Gilts
Travers, Roy	"	4	9.5	5.6	60	159.6	"
Springer, Harold	Greene	5	8.4	5.8	69	153.8	"
Thordsen, Louis	Cedar	11	9.2	6.1	66	143	5 gilts, 6 sows
Meier, Arnold	"	15	8.46	6.53	78	130.8	Gilts
Anderson, Merle	Greene	1	5	4	80	116	"

SOW TESTING IN MINNESOTA

The Fillmore-Houston County Livestock Record Association is cooperating with the extension division in selecting breeding stock from records of performance. Seventeen farmers have ear-marked and weighed 117 litters.

These pigs were weighed at 60 days of age. This is the age at which most farmers wean the pigs. The difference in weight of litters at 60 days of age points out the differences in the ability of sows to produce profitable litters. Factors contributing to losses, such as feeding, management, and disease, must be considered. There is, however, a big difference in sows on the same farm.

In the group of farmers cooperating in the project, the smallest litter weighed 44 pounds with only 2 pigs saved. The heaviest litter weighed 336 pounds with 10 pigs saved. One 5-pig litter of 296 pounds averaged 59 pounds per pig. On one farm 24 litters were weighed. After checking the weights, uniformity, and number in each litter, the owner decided that gilts for next year's sows would be selected from only 5 litters. This would have been impossible if all the litters had not been marked shortly after farrowing.

The heaviest litter of pigs weighed in 1936 was one of 10 pigs that weighed 570 pounds at 56 days and 2,305 pounds at 180 days.

The 1937 litters have not all, as yet, been weighed at 180 days. So far, the heaviest litters at 60 days have been the heaviest at 180 days. With few exceptions, this has been true with all the litters weighed during the last two years.

It has been demonstrated that if pigs are not marked or weighed, one must guess when he selects his breeding stock. One may select a large gilt out of a small litter or one whose litter mates were far below the average.

Gilts should be selected from uniform litters, preferably seven or more in a litter. A good goal is seven pigs at weaning from a gilt and eight from an older sow. With reasonably good feeding and management, the pigs should weigh at least 30 pounds apiece at 60 days of age. Records indicate that pigs weighing less than 20 pounds at 60 days require too much time and feed to reach marketable weights.

This, in brief, is the basis of the sow-testing program: Marking every litter immediately after farrowing; weighing the litter at 60 days and again at 180 days; picking gilts from the uniform, heavier litters. The next step is to select a boar from a similar litter to mate with these gilts.

--From Minnesota Annual Report, 1937.

-----oOo-----

DIVERSIFICATION IN LIVESTOCK INTERESTS WISCONSIN COUNTY AGENTS

By James Lacey, Associate Professor of Animal Husbandry,
Wisconsin Extension Service.

Diversification in livestock production in Wisconsin counties which have been preponderantly dairy areas is now figuring prominently in many county-agent programs throughout the State. The trend in the direction of livestock sidelines has been noticeable for several years, but for the past two seasons the unattractive prices of dairy products have hastened the diversification development. In fact, the demand for kinds of livestock that could be used to supplement dairy cattle as a source of income has been insistent enough to cause difficulty in supplying the stock needed.

To facilitate plans for the counties where such programs are in demand, the department of animal husbandry has given service not only in the field of planning but also to the counties and cooperating farmers. Walworth County, in the heart of the Chicago fluid milk area, is one example of cooperative effort. In the fall of 1936, J. G. Beattie, county agent, met with representatives of the college and of the packing and livestock commission firms of the State to plan a beef-calf project. A finance plan was worked out for prospective purchasers, all 4-H club members. A canvass was made of club members who were considered to be interested. On this canvass orders for 46 calves were placed in March of 1937. A carlot of feeder calves was then purchased and shipped to the county seat. The club members were called in, and out of 53 calves in the load, 46 were placed.

Feeding instructions were given to each purchaser. Record books were distributed. It was interesting to note that all the calves were placed on dairy farms. Mr. Beattie and extension men from the college visited the club members at least once during the club year.

The calves averaged 440 pounds each when distributed in March. They cost \$9.35 per hundredweight. During the first week in September a sale was held at the county fair, where the calves were sold at auction after being shown. The average price per hundredweight paid by the packers was \$15.50. The average weight was 1,000 pounds. After feed costs had been deducted, the members cleared a little more than \$50 per calf.

In October 1937, 88 head were located for Mr. Beattie and his 1938 club members. The calves were again distributed at the county seat. They averaged 400 pounds in weight and cost \$11.00 per hundredweight delivered. Feeding instructions and supervision by the county agent and the department of animal husbandry have again been given.

The calves have done extremely well and an auction sale at the county fair will again be used as a means of disposal.

The success in Walworth County in 1937 prompted a similar project in Winnebago County in 1938. County agent R. C. Heffernan and the department of animal husbandry selected 26 head of 4-H club members in April. These calves were all distributed to boys on dairy farms. Most of the members are financing themselves through borrowed capital, secured by notes. Here, again, the calves have made excellent gains. A special class has been made for this project in the county fair list and the animals will be sold after exhibition at the fair.

Racine County, under the direction of E. A. Polley, county agent, has sponsored a beef-calf project and show for more than half a dozen years. Dodge County, under the leadership of J. E. Stallard, and Green County, with R. L. Paylak, county agent in charge, have placed about 10 baby beeves in their respective counties, on dairy farms where diversified income was desired. Iowa County, with W. B. Noyes as county agent, has more than 100 beef-calf club members this season. However, most of these animals are located on farms where beef cattle have been kept and are not considered as a new source of livestock income.

Northern and central Wisconsin counties, with the problem of using dairy by-products to advantage, and generally speaking, outside the corn-producing area, are turning to sheep and in a few instances to hogs. With more than 100,000 head of dairy cattle in a single county, sheep seem to fit in to better advantage than beef cattle so far as equipment and feed are concerned.

Barron County has more cows that have produced a ton or more of butterfat per cow than any other county in the United States. Yet county agent I. O. Hembre has been preaching the doctrine of diversifying the source of the farm dollar. In fact, Mr. Hembre has requested more assistance from the college on planning for the increase in numbers of sheep than he has in dairy-cattle work for the past two years.

Mr. Hembre's plan is to buy several carloads of western ewes in October 1938, and to place them on farms where income balance has become lopsided in favor of dairying. In anticipation of the introduction of these new flocks, however, the ground work on management of the farm flock has been laid. Meetings have been held on docking and castrating, on shearing, and on dipping and drenching. The value of the farm flock as a source of a few extra dollars has been emphasized by Mr. Hembre and by animal-husbandry staff members. This month the Wisconsin ram truck will make two stops in Barron County to afford a

chance for new sheep producers to purchase good purebred rams for use on the ewes of western origin.

County agents H. G. Sayforth, O.G. Woelfel, W.R. Marquart, and John J. Zahorik, of Pierce, Pepin, Polk, and Buffalo counties, have stressed sheep as a means of increasing income. Although numbers of sheep are relatively large in these counties, the county agents and the animal husbandry department have cooperated in plans to maintain present numbers. Portable dipping and drenching outfits have made parasite control more thorough and less expensive. The ram-truck idea is providing purebred sires at prices that producers are willing to pay. Shearing schools, wool grading, and cooperative marketing of wool have been both educational and financially profitable. A feeder-lamb project for 4-H club members is being formulated for this four-county area this fall.

Marathon and Wood counties, with considerable whey from cheese manufacture and with barley as a certain grain crop, are increasing their swine numbers to stimulate farm income. County agents W. J. Rogan and H. R. Lathrop have encouraged pig club work in this intensive dairy area, and with the cooperation of agricultural instructors and club leaders have developed two of the good swine shows of the State at the county fairs. The extension force and the department of animal husbandry have cooperated with and directed the work of 4-H clubs and shows.

Counties other than those mentioned are finding that diversification holds a prominent place in future development plans. Wisconsin's dairy industry will continue to be the pride of the Badger State's agriculture, but profitable adjuncts to the milk income are constantly receiving increased attention. One-crop farming isn't sound, even though that crop be milk. County agents and those in charge of rural planning are keeping this fact in mind.

-----oOo-----

ACP IN SOUTH DAKOTA

A large percentage of the farmers and stockmen of the State are supporting the Agricultural Conservation Program, thus signifying their interest in organized agricultural production and adjustment. Inasmuch as this program calls for a shift from intensive to extensive crop production, it may necessitate a slight change in livestock production and management practices. Lower costs of production should result for the cooperators in the program, since extensive farming is conducive to lower costs than is intensive farming. The achievements of the range program are worthy of special mention, since the stockmen through the assistance of the Agricultural Conservation Program have this year practiced deferred grazing on 4,378,523 acres, carried on limited grazing on another 2,108,070 acres, have constructed 3,261 stock water dams, and have contour-furrowed 1,732 acres.

-----From S. Dak. Annual Report, 1937.

-----oOo-----

TWO TO FOUR POUNDS MORE WOOL PER EWE

By Tony Fellhauer, Extension Livestock Specialist,
Wyoming Extension Service.

An average increase in fleece weight per range ewe of 2 to 4 pounds may sound like a fairy story. To state that on an outfit of 40,000 range ewes the average fleece weight was increased slightly more than 2 pounds per ewe, or a total of more than 80,000 pounds per year, surely seems unlikely. Nevertheless, this is what happened in the case of the Warren Livestock Company of Cheyenne after seven years of culling and breeding work.

Many other sheep outfits have cooperated in culling demonstrations since Dean J. A. Hill initiated this type of wool improvement work more than 20 years ago. In addition to Dean Hill's work the livestock specialists and some county agents have followed through on culling demonstrations, and in every case after a period of 4 to 10 years there has been a very marked increase in average fleece weights. What is also very important, the fleeces were much more uniform in grade and longer of staple so that the clips are easier to sell and usually command a higher price. These results have been obtained so often that the outcome is not a matter of opinion or guess. If a sheepman has not been following a careful culling and breeding program, he can increase the average fleece weight of his flock from 2 to 4 pounds over a period of 4 to 10 years and make his clip more uniform, if he will follow our recommendations.

The first culling will invariably make a difference of at least 1 1/2 pounds of wool per ewe between those culled and those left in the flock. The following is cited as an example. Wm. Kyne, wool grower in Hot Springs County, this spring began as a cooperator with county agent Louis Schilt. He desired to cull out 10 to 15 percent of his less desirable ewes. Approximately 12 percent, or 500 head, were marked for culling by Schilt. At shearing time the fleeces of 50 of the culled ewes, taken at random, and those of a representative group of 50 of the ewes left in the flock were weighed. The average fleece weight from the culled ewes was 7.3 pounds, whereas from those left in the flock it was 10.2 pounds.

A record was kept of the results obtained in cooperation with Paul Dodd, a sheepman at Sheridan, who began with a small, non-descript band of ewes. Mr. Dodd desired to work toward a uniform medium grade of wool. Good Corriedale bucks were used. The results of the first four-year period were as follows:

<u>Year</u>	<u>No. Ewes</u>	<u>Av. Wt. Fleeces</u> <u>Pounds</u>	<u>Average Grade</u>
1928	437	7.2	Fine to low 1/4
1929	548	7.69	Fine to 1/4
1930	526	8.6	Fine to 1/4, mostly 1/2 to 1/4
1931	754	9.01	Mostly 1/2 to 1/4
1932	984	10.54	34%, 1/4; 44%, 3/8; 22%, 1/2.

The average increase in grease weight was 3.34 pounds, or 1.14 pounds on a scoured basis.

The method used in culling is a practical one because it is rapid and a great deal of handling is not necessary. Before starting the job the owner is asked what percentage he wants culled out. The culling is done by what is known as the "touch system." A long narrow chute or runway is filled with a part of the ewes to be culled. The man doing the job then works rapidly through this group, grabbing a handful of wool on nearly the same location on the back of each ewe. At the same time he notes their general appearance and condition of the fleece. A chalk is used to mark the less desirable ones, so that they can be cut out later. An experienced culler can work over 1,000 ewes an hour by this system.

It sometimes happens that after the ewes have been marked for culling the owner for some reason, perhaps because he has no good market for those culled out or through neglect, fails to take them from his flock, in which case the effort has been for nothing. One way to overcome this and yet get the same result, except that it may take a few years longer, is to make a careful selection of the best ewe lambs in the fall for flock replacements. This can be done at the time the lambs are marketed so that the ewe lambs not to be kept can be sold with the wether lambs. It is well, however, to select a few more than will be needed, and then make final replacement selections in the late winter or spring, because it is not so easy to do a good job with the younger lambs. This is the system that has been followed by the Warren Livestock Company. It makes the first selection in the fall. Then Dean Hill makes the final selection in the spring. This year about 6,500 ewe lambs were saved out of approximately 10,000. These 6,500 were cut down to 5,000 by Dean Hill, which is the number wanted for replacements. One can imagine how uniform these 5,000 head would be, particularly since this plan has been followed for seven years.

As a further encouragement to wool-improvement work, a number of wool schools have been held throughout the State. This year schools were held at Gillette, Buffalo, and Worland. Publicity has been and is continually being given to the results obtained in culling demonstrations.

A 4-H demonstration on the subject, "Two to Four Pounds More Wool Per Ewe," has been prepared as an aid and suggestion to older sheep club members and club leaders. Sample circular letters on wool improvement are prepared for county agents. Wool exhibits at county fairs are encouraged. In cooperation with the United States Department of Agriculture and the wool department of the University a portion of the recently formed Weston county wool pool was graded by a Government grader.

Then, finally, the thing that will probably cause many sheepmen to follow a more definite culling and breeding program is the shrinkage and grade determination work by the United States Department of Agriculture and the University wool department. When a wool grower receives the report on his clip and it shows a great variance in grade, it is likely that this can be used to encourage him to do some improvement work. General educational and other similar efforts in behalf of wool improvement have their place, but the ultimate goal is not reached unless the grower as a result follows out either alone or with some assistance a definite improvement program. This is what we are attempting to get him to do.

-----oOo-----

SWINE WORK IN TEXAS

During 1937, 447 complete swine demonstrations were conducted for adults in 91 Texas counties. In many instances county agents rendered other assistance to farmers in hog production but these cases are not included in this figure. In conducting these demonstrations, the county agents made 4,559 farm visits. There were 159 meetings held on the farms of the demonstrators at which meetings the work of the demonstrator was explained, and the farmers had an opportunity to observe the various methods used by the demonstrator. Additionally, the county agents held 844 meetings at which the best known methods of hog production were discussed, and 498 news stories were published in regard to improved methods of hog production. The swine demonstrations as well as the meetings resulted in the county agents' receiving 13,363 office calls from farmers seeking information in regard to hog production. Assistance was given to 519 farmers in the purchase of purebred sires and to 746 farmers in obtaining high-grade purebred females; and 16 boar circles, or clubs, were organized with a membership of 170 persons. In two counties the demonstrators in hog production were organized into hog-production clubs. These two clubs had a total enrollment of 200 members. These clubs met from time to time throughout the year and at these meetings the various demonstrators discussed experiences they were having with their enterprises. These discussions were very helpful in giving farmers new information on improved methods of hog production.

--From Texas Annual Report, 1937.

-----oOo-----

THE FEED SITUATION

The prospective total supply of corn, oats, barley, and grain sorghums, including the large carry-overs from last year's crops, is expected to approximate 111 million tons, or 7 million tons above that of a year ago, when carry-overs were extremely small, and 3 million tons more than the average for the period 1928-32, before the recent severe droughts. The supply per grain-consuming animal is expected to be slightly larger than a year ago, about 12 percent above the fairly liberal supplies per animal during the period 1928-32, and the largest in more than 12 years, even after allowance is made for an increase in livestock numbers from the January 1 level.

* * * The prospective 1938-39 hay supply, including the August 1 indicated production and the May 1 carry-over, is 16 percent above the supply of last year and the largest since 1927. Supplies per animal will be ample in all important livestock States, and unusually large in Iowa, Minnesota, and the eastern Corn Belt States.

The condition of the soybean crop on August 1 was slightly higher than the very favorable condition last year, and the acreage grown for all purposes is about 10 percent larger. These figures indicate that the quantity of beans harvested may be somewhat larger than that of a year ago.

* * * The total production of high-protein feeds will probably be somewhat smaller than in 1937-38 as a result of a sharp reduction in the size of the 1938 cotton crop. This crop was indicated to be about one-third smaller than the 1937 crop, on the basis of the August 1 conditions. A proportional reduction in cottonseed cake and meal production would more than offset the larger carry-over of cottonseed cake and meal and the probable increases in supplies of other high-protein feeds, and would result in a material reduction in the total supplies of these feeds.

Linseed cake and meal production for domestic utilization may be somewhat larger than in 1937-38, since the domestic flaxseed crop, from which most of our linseed cake and meal are produced, is 17 percent larger than the 1937 crop.

--From Aug. 25 issue of "The Feed Grain Situation," USDA.

-----oOo-----

The fact is that possessing knowledge does not necessarily throw people into action. So our information and knowledge which we endeavor to transmit or to develop a desire for acquiring, come to naught, if we do not appeal to inherent characteristics--pride, curiosity, ingenuity, creativeness, desire to help others, and so on--in our efforts to build up an interest to acquire, to want, to hunger for the information and knowledge which we have. --A. B. Graham

-----oOo-----

SOUTH DAKOTA COOPERATIVE GRAZING ASSOCIATIONS

At the last session of the legislature amendments were made to our cooperative grazing association law, the State Livestock Committee having a part in obtaining these amendments. These changes in the law simplified its operation so that interested communities in the State could set up a cooperative grazing association, if desired. The extension animal husbandman made a trip into Montana to make a study of the Mizpah-Pumpkin Creek Cooperative Grazing Association, which was the first one to be established in that State. Following this study cooperative grazing association meetings were held in Fall River, Haakon, Meade, Pennington, Potter and Ziebach Counties, and the advantages of such an association were presented to the stockmen in attendance. The meeting in Fall River County was held in cooperation with the Resettlement Administration, since it initiated the movement on account of its land purchases that had been made in that county.

* * * During the year five cooperative grazing associations were established in South Dakota. The first was established in Fall River County on April 9, 1937. This association was named the Pioneer Grazing Association and was set up in the Smithwick-Oelrichs territory. The second association to be organized in Fall River County was set up in the Ardmore community on June 16, 1937, and was called the Duck Creek Cooperative Grazing Association. There are 18 members in these organizations and they control 54,000 acres of range land. Ranchers in the area have been benefited in that they are enabled to plan their operations on a long-time basis and have been able to reestablish depleted ranges resulting from private management and grazing during the drought years. In addition, large blocks of public lands were leased at prices considerably less than they could have otherwise been acquired. The Fall River County agent anticipates that additional associations will be organized in the county during the coming year.

The Potter County Grazing Association was organized on June 12, 1937, with a membership of 40 and comprises some 51,000 acres of land leased from the commissioner of school and public lands. The ranchers in Potter County have benefited through the association by being able to retain their present grazing lands during the period of livestock depletion. They have also been able to obtain a decrease in rental rates as a reduced rate was obtained through the Department of School and Public Lands, since the association took over all unleased school lands in the county and thereby eliminated the necessity of State Department supervision. Its operation in Potter County differs from that in other counties as allotments of land are made instead of allotments of grazing rights.

Two grazing associations were organized in Jackson County during

the spring of 1937. The South Creek Grazing Association, organized in the north-central part of Jackson County, comprises 7,587 acres of grazing lands and has a membership of 13. The Indian Creek Grazing Association is located in the central part of Jackson County and has a membership of 8. It controls an area of 6,780 acres of range land. These associations have given more stability to ranch operations and have enabled members to control the grazing area and improve the condition of the grass. The associations have also been able to plan a grazing rotation to cross-fence the area where necessary and improve the water facilities. A fee of \$2.00 per head per year is charged to the membership. This fee covers the cost of the lease and other necessary expenses. The South Creek Grazing Association has been set up so that an individual may obtain private leases on portions of the holdings, which permits the members to have pasture or winter-grazing tracts for personal use.

Owing to the fact that many areas in South Dakota are characterized by small holdings, a relatively small amount of resident-owned land, a large amount of nonresident-owned land as well as county and State land and mortgage foreclosure lands, the situation has made it difficult in the past for stockmen to obtain a desirable kind of tenure and control management of range land. The cooperative grazing association helps the west-river stockmen to solve many of their range problems.

--From S. Dak. Annual Report, 1937

-----oOo-----

A FUNDAMENTAL THOUGHT

Research, so-called, has been carried to an absurd excess by men who have ventured alone into the scientific jungles with the hope of finding something, but without definite aim or fundamental knowledge or landmarks. It seems advisable that no apparent discovery made by a man who has not established a scientific status should be accepted as such without a trial by a commission composed of scientists of established reputation.

*** Unripe minds will naturally produce pseudo-science, and much so-called science that is unripe and undigested is being forced upon our attention today. The personal side of research must begin with the proper training and preparation to conduct research that is worthy of the name, and until we find the man fitted for this work, such accessories as money, equipment, and apparatus, cannot be efficiently applied.

--Extracts from address made in 1913 by Dr. J. R. Mohler

-----oOo-----

FRIENDS

There are few self-made men in the world. Most of us are the products of our friends. They have said the kind word; they have lent encouragement; they have helped direct us into lines of work we are doing. It is to them we owe our thanks, rather than to ourselves and our own efforts. We don't get far on our own efforts alone. --Dr.C.B.Smith

-----oOo-----

LOUISIANA WORK STOCK PROGRESS

More interest has been shown in farm work stock in 1937 than in recent years. Many inquiries have been received relative to the purchase of brood mares, the feeding of farm work stock, and places where stallions and jacks might be purchased. In many parishes three or four carlots of good, heavy, brood mares, as well as three or four jacks, have been imported from other States. Generally, however, only a limited number of brood mares have been purchased, although 40 jacks were imported into this State during 1937. Many of these animals were brought in by mule dealers. A large portion of them, however, were located by extension workers.

The phases of work carried on under this project are breeding, feeding, and parasite control. The breeding phase has been rather popular in those parishes where the numbers of horses and mules have decreased materially in recent years, and replacements are needed at the present time. Many farm owners have mares that they use to make a crop, but they have never raised any mules. If the mares were bred at all they were bred to a stallion.

During 1936 and 1937 more interest in the raising of farm work stock has been noticeable than at any time in recent years. Much of this interest has been aroused through the Farm Security Administration in connection with farmers having low incomes. The Farm Credit Administration has been responsible for placing a large number of jacks and stallions throughout the State where they can do the most good. This is illustrated in the parishes of St. Helena and Tangipahoa.

Late in 1936 two jack associations were formed in St. Helena Parish in cooperation with the Farm Security Administration, and two jacks were purchased early in 1937. During the breeding season, that is, from early spring through September, 110 mares were bred. As a result of introducing the two above-mentioned animals farmers have purchased over 100 brood mares.

Four jack associations were formed in Tangipahoa Parish and the animals purchased late in the spring. The jacks arrived so late that only 100 mares were bred. However, the indications for the 1938 breeding season are that about 300 mares will be bred.

East Feliciana probably has been sponsoring the raising of farm work stock longer than any other parish. As a result, more than 350 mule colts and 165 horse colts were reported in the parish in 1937.

In promoting the treating of work stock for internal parasites,

the procedure is to devote approximately one week to educational work, at which time general discussions of control of internal parasites are given as well as the price that will be charged per head for treating and the location of the point of concentration. The county agent or the person sponsoring the work usually arrives with the local veterinarian and meets the farmers at this point, and if the teeth need floating, the veterinarian does this work also. In this way it is possible for the farmer to get his animals treated at a reasonable cost without running the risk of killing or injuring any of the animals. The internal parasite work has been carried on for several years in the Sugar Belt area. However, in this area most of the farms are large and each operator contracts for the service of a veterinarian by the year, and the treating for internal parasites is covered in this contract.

When the State veterinary association held its annual meeting in 1937, the parasite-control program as sponsored by the Agricultural Extension Department was explained in detail. After it was understood that veterinarians were to do all the treating, they voted to cooperate and agreed that all would charge 50 cents per head when the animals were assembled in groups of not fewer than 40 head. Under this plan in 1937 a total of 5,192 animals were treated in eight parishes.

--From Louisiana Annual Report, 1937.

-----oOo-----

NORTH DAKOTA LIVESTOCK MUTUAL AID CORPORATION

Considerable time was spent in getting the North Dakota Livestock Mutual Aid Corporation set up on a working basis to handle loans in financing purebred bulls. This organization was perfected the early part of the year but did not get ready to make loans until the latter part of the year. The North Dakota Livestock Mutual Aid Corporation has obtained a loan of \$150,000 from Federal funds for the purpose of relending to farmers to purchase purebred bulls. Each farmer making a loan becomes a member of the Mutual Aid Corporation by paying a fee of \$2.00, which covers a three-year period, and by paying one-fourth of the purchase price of the sire. The other three-fourths is financed through a loan from the corporation, said loan to be repaid in three equal installments over a three-year period. The interest rate to the borrower is 5 1/2 percent. The corporation takes a mortgage on the animal purchased as its sole security. The maximum loan allowed is \$200.

--From N. Dak. Annual Report, 1937

-----oOo-----

OHIO HORSE NOTES

Late in 1936 and early in 1937, Hancock and Wyandot Counties conducted extensive bot campaigns under the supervision of the county horse breeders' associations. In Hancock County approximately 4,000 horses were treated, and in Wyandot County the number treated was 2,800. Both of these counties are at present in the midst of more extensive campaigns of this kind. Seneca County also has its campaign well under way with 5,000 horses signed up for treatment. Ashland, Wood, and Highland Counties have also been treating in a more limited way for several years. Allen, Richland, and Williams Counties are also making plans for widespread campaigns this winter. The interest in this work is spreading very rapidly.

In 1935, 44 counties had a total enrollment of 336 members in the 4-H colt club project. The number of counties having enrollments in 1936 increased to 56 with 474 members carrying on the project. In 1937, 57 counties had enrollments with 451 members engaging in the project. Williams County continues to lead with a total enrollment of 39 compared with 34 a year ago. The second and third year enrollments in this county still continue to be high in proportion to the number of first year club members. This indicates an excellent condition and a healthy interest in colt club work. In that county the 4-H club members still continue to be an important factor in their county horse show, winning a larger share of the prizes in the open classes to which they are eligible. Fairfield County, which has shown considerable interest in 4-H colt club work from the beginning, ranked second, with Wyandot County only one below Fairfield in total enrollment. Clark, Henry, Lorain, Union, and Huron Counties rank close together in their total colt club enrollments.

At the 1937 State Fair, colt club classes were provided for the first time. The show was not large but it attracted considerable interest. These colts were shown on Saturday in connection with the Saturday Junior Fair, which was tried out for the first time this year at the Ohio State Fair. In addition to this 4-H colt club show, colt club members from Huron County showed a number of yearling Percheron fillies in the futurity class in the regular draft-horse show. Half of the animals landed in the money division which was a very favorable showing for the first attempt. At practically all county colt shows special classes are set up for 4-H colt club members. These juniors have the privilege of showing their animals in the regular classes as well.

--From Ohio Annual Report, 1937.

-----oOo-----
What the world needs is understanding. People must be taught to think, to think clearly, and to think for themselves. That will equip them not only to face the hazards of a changing world, but to make money when there's money to be made. --Robert Maynard Hutchins.
-----oOo-----

CATTLE-LICE CONTROL IN SOUTH CAROLINA

Heavy infestations of lice on cattle occur generally in herds throughout the State. As a means of combating this pest, we cooperated with W. C. Nettles, extension entomologist, in obtaining formula for lice powder. This information, which was secured from Michigan State College, has been tried extensively and proven to be efficacious. It is compounded as follows:

	Pounds
Derris dust (5 percent rotenone content)	20
Japanese pyrethrum flowers (finely powdered)	10
Powdered naphthalene	8
Talc or fine clay kaolin	62

These materials mixed together form a powder mixture which can be applied along the backs of cattle from the poll to the tail head when the hair is dry. A second application made 14 days after the first kills lice that have hatched after the first application and those that may have gotten back on the animals from mangers, feed racks, and other objects. Very effective control has been obtained from two applications. Dusting with powder is more economical, much less severe on the animal, and can be accomplished at a great saving of time and effort as compared with spraying or dipping with cresol compounds or other solutions.

In order to get wide distribution of the material, arrangements have been made with Dr. W. A. Barnett and a local drug company in Greenwood to mix and distribute this powder. They have already made contacts in a number of towns throughout the State. Before another winter a check will be made in an effort to make lice powder of high killing power which is also nonpoisonous, available to cattlemen throughout the State. Through newspaper articles, letters, and other means, attention has been called to the problem of lice on cattle and the ease with which powder can be used in combating this pest. A fairly good response was obtained and a relatively large number of cattle were treated.

--From South Carolina Annual Report, 1937

-----oOo-----

AMERICAN SOCIETY OF ANIMAL PRODUCTION

The regular annual meeting of the American Society of Animal Production will be held in Chicago, Ill., November 25-27, 1938, which are the opening dates of the International Live Stock Exposition. As usual the extension section will hold sessions the afternoon and evening of November 25. An interesting program is in prospect, and all extension animal husbandmen should attend.

-----oOo-----

SCRUB SIRE TRIAL OUTLINE

A new supply of the publication entitled "An Outline for Conducting a Scrub Sire Trial" is now available from the Bureau of Animal Industry, U.S.D.A., Washington, D. C.

-----oOo-----

MISCELLANEOUS HORSE NOTES

Kansas

Organized bot-control work was conducted in 9 counties with the cooperation of 34 practicing veterinarians. A total of 8,026 animals were treated by them. In other counties the work was carried on in less systematic manner. In all, 21,948 animals owned by 4,290 farmers were treated in 1937.

Michigan

A total of 53,245 animals were treated for bots and other internal parasites in 57 counties of the State in 1937. Two hundred and fifteen practicing veterinarians cooperated in the work.

Nebraska

In 63 of Nebraska's 93 counties 7,528 farmers participated in the cooperative bot-control campaign in 1937. A total of 41,777 horses and mules were successfully treated at an average cost of 40 cents per head.

New York

Horse-pulling contests with the use of the dynamometer were held at 13 fairs in 1937 with 153 teams competing. The total attendance was 48,500. All requests could not be met on account of conflicting dates.

-----oOo-----

SOUTH CAROLINA SWINE WORK, 1937

A total of 18 dry-lot hog-feeding demonstrations in which 356 hogs were involved were completed during the year. Cottonseed meal and fish meal were used to supplement corn in the rations. Cost of gains averaged \$7.36 per hundredweight, and the average price returned for each bushel of corn fed was \$1.48.

In seven pasture-supplement hog-feeding demonstrations, involving 283 hogs, the average cost of gain per hundredweight was \$6.66.

Eight hundred and eighteen pig-club members fed out 930 pigs, reporting a total profit of \$6,733. In addition, 86 boys and girls raised 239 purebred gilts for breeding purposes and 71 members of the sow and litter clubs produced 472 pigs.

More than 96,000 hogs were marketed cooperatively by 11,333 shippers with a total return of more than \$1,600,000.

During the year, 266 purebred boars and 340 purebred and grade gilts and sows were placed with farmers. One hundred sixty hog houses and 221 self-feeders were built.

-----oOo-----

Your value lies not in what you can do, but in what you can get other people to do. --Seaman A. Knapp

-----oOo-----

RECENT PUBLICATIONS

(Only Federal publications are available from Washington. Others listed may be obtained in most instances from the institution or agency issuing them. Do not write Washington for other than U.S.D.A. publications).

Federal

"The Feed Grain Situation" - Bureau of Agricultural Economics, U.S.D.A., Washington, D.C., - Aug. 25, 1938, pp. 33. (Mimeographed).

"Grading Wool" by James W. Christie, Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - Farmers' Bulletin No. 1805, June 1938, pp. 24, illus. 14.

"High Protein Feed Report" - Bureau of Agricultural Economics, U.S.D.A., Washington, D. C. - Aug. 30, 1938, pp. 16. (Mimeographed).

"Income Parity for Agriculture, Part 1, Section 3 - Income From Hogs" - Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - July 1938, pp. 28. (Mimeographed).

"Livestock, Meats, and Wool Market Statistics and Related Data, 1937" - Bureau of Agricultural Economics, U.S.D.A., Washington, D.C., May 1938, pp. 86, tables. (Multigraphed).

"Shrinkage and Dressing Yields of Hogs" by Knute Bjorka, Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - June 1938, Tech. Bull. No. 621, pp. 21.

"Control of Liver Flukes and Fluke Disease of Sheep, Goats, and Cattle," by Robert Jay, Bureau of Animal Industry, U.S.D.A., Washington, D.C., Apr. 15, 1938, pp. 7. (Mimeographed).

"Comparative Value of Mature Sows and Gilts for Producing Market Hogs," by E. Z. Russell and R.E. Hutton, Bureau of Animal Industry, U.S.D.A., Washington, D.C. - Circ. No. 472, May 1938, pp. 21.

"Bovine Genital Trichomoniasis," by G. Dikmans, Bureau of Animal Industry, U.S.D.A., Washington, D.C. - July 20, 1937, pp. 5. (Mimeographed).

"Refrigerated Food Lockers," by L. B. Mann, Farm Credit Administration, Washington, D.C. - Circ. No. C-107, May 1938, pp. 30, illus. 8.

"Disadvantaged Classes in American Agriculture," by Carl C. Taylor, et al., The Farm Security Administration, U.S.D.A., Washington, D. C. - Apr. 1938, pp. 124.

"Statistical Results of Cooperative Extension Work, 1937," by M.C. Wilson, Extension Service, U.S.D.A., Washington, D.C. - Extension Service Circular 286, June 1938, pp. 59.

"An Economic Study of Cattle Business on a Southwestern Semi-desert Range," by Matt J. Culley, Forest Service, U.S.D.A., Washington, D.C. - Circ. No. 448, Dec. 1937. pp. 24, illus. 4.

"A Selected Bibliography on Management of Western Ranges, Livestock, and Wildlife," by F.G. Renner et al., Forest Service, U.S.D.A., Washington, D.C. - Misc. Pub. No. 281, Mar. 1938, pp. 468.

State

"Hardness of Pork Fat as Affected by Alfalfa Pasture and by Breed," by E. H. Hughes - California Experiment Station Bulletin 616, Dec. 1937, pp. 11.

"A Comparison of Sorghum Silage, Peanut Hay and Cottonseed Hulls as Roughages for Fattening Steers," by A.L. Shealy and L.O. Gratz - Florida Experiment Station Bulletin 320, June 1938, pp. 10.

"Selecting and Using Beef and Veal," by W.G. Kirk and A.L. Shealy - Florida Experiment Station Bulletin 321, June 1938, pp. 34, illus. 30.

"Hogs in Georgia, with Special Reference to Production in the Peanut Area," by Oscar Steanson et al. - Georgia Experiment Station Bulletin 198, Apr. 1938, pp. 44.

"Spring Lamb Production," by C. G. Elling - Kansas Extension Service Bulletin 83, June 1938, pp. 66, illus. 38.

"Swine Production in Kansas," by C. E. Aubel - Kansas Experiment Station Bulletin 277, June 1938, pp. 74, illus. 50.

"How to Grow Thrifty Pigs," by J. W. Schwab - Indiana Extension Service Leaflet No. 208, Feb. 1938, pp. 8.

"Methods of Preparing the Corn Crop for Yearling Steers," by G. A. Branaman, et al., - Michigan Experiment Station Special Bulletin 293, May 1938, pp. 16.

"The Reproductive Organs and Semen of the Boar," by Fred F. McKenzie, et al. - Missouri Experiment Station Research Bulletin 279, Mar. 1938, pp. 122, illus. 37.

"Montana Cattle Shipments - Sources, Destinations, and Character of Montana's Cattle Shipments," by P.S. Eckert and P.L. Slagsvold - Montana Experiment Station Bulletin No. 358, May 1938, pp. 44, illus. 19.

"An Acre of Livestock" - Nebraska Extension Service Circular 215, 1938, pp. 8, illus. (Mimeographed).

"Showing Meat Animals" by K. C. Fouts - Nebraska Extension Service Circular 2-88-2, Aug. 1938, pp. 11, illus.

"Legume and Grass Silage" - New Hampshire Experiment Station Bulletin 305, Apr. 1938, pp. 23, illus.

"Comparison of Protein Supplements for Fattening Pigs," by J.E. Foster and Earl H. Hostetler - North Carolina Experiment Station Technical Bulletin No. 56, May 1938, pp. 84.

"Creep Feeding and Finishing Beef Calves," by Bruce R. Taylor, et al., - Oklahoma Experiment Station Bulletin No. 235, May 1938, pp. 21, illus. 6.

"Fattening Steer Calves. Quantity of Supplement, III"

"Fattening Steer Calves--Quantity of Supplement Test. Summary of Three Years"

"Reducing the Amount of Corn and Increasing the Amount of Legume Hay in Rations for Fattening Yearling Steers, II"

"Quantity of Protein for Yearling Steers on a Heavy Silage Ration"

"Skimmed Milk and Dried Skimmed Milk for Pigs" -

Above articles in Ohio Experiment Station Bimonthly Bulletin, No. 192, May-June, 1938.

"Fattening Shorn and Unshorn Merino Lambs," by T.B. Keith and W.L. Henning - Pennsylvania Experiment Station Bulletin 357, Apr. 1938, pp. 16.

"Clovers and Grasses for Hay and Pasture," by C.A. Mooers - Tennessee Experiment Station Bulletin No. 165, Mar. 1938, pp. 69, illus. 16.

"Regional Differences in Farm Price of Horses and Mules, Tennessee and United States," by Charles E. Allred and Paul T. Sant - Tennessee Experiment Station Rural Research Series Monograph No. 67, Jan. 1938, pp. 18.

"Steer Fattening Investigations" by J. H. Jones, et al., - Texas Experiment Station Bulletin No. 564, May 1938, pp. 51, illus. 24.

"Legume and Grass Silages" by O. M. Camburn et al., - Vermont Experiment Station Bulletin 434, May 1938, pp. 23.

"Home Freezing Unit, Building and Operating" by R. N. Miller and Homer J. Dana - Washington Extension Service Bulletin 241, Mar. 1938, pp. 15.

"Sheep Club Demonstration" by Tony Fellhauer - Wyoming Extension Service mimeographed leaflet, pp. 7.

Other

"National Percheron Show, 1938 - Premium List and Breed Type Study" - published by Percheron Horse Association of America, 9 Dexter Park Ave., Union Stock Yards, Chicago, Ill., pp. 63, illus.

"Reference Book of the Meat Packing Industry" - published by the Institute of American Meat Packers, 59 East Van Buren St., Chicago, Ill., - Aug. 1938, pp. 64 with graphs and tables.